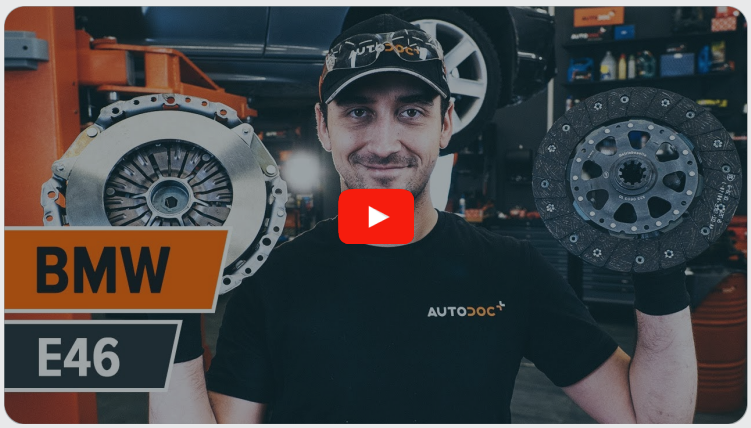
AUTODOC CLUB

How to change clutch kit on **BMW 3 Saloon (E46)** – replacement guide

SIMILAR VIDEO TUTORIAL



This video shows the replacement procedure of a similar car part on another vehicle

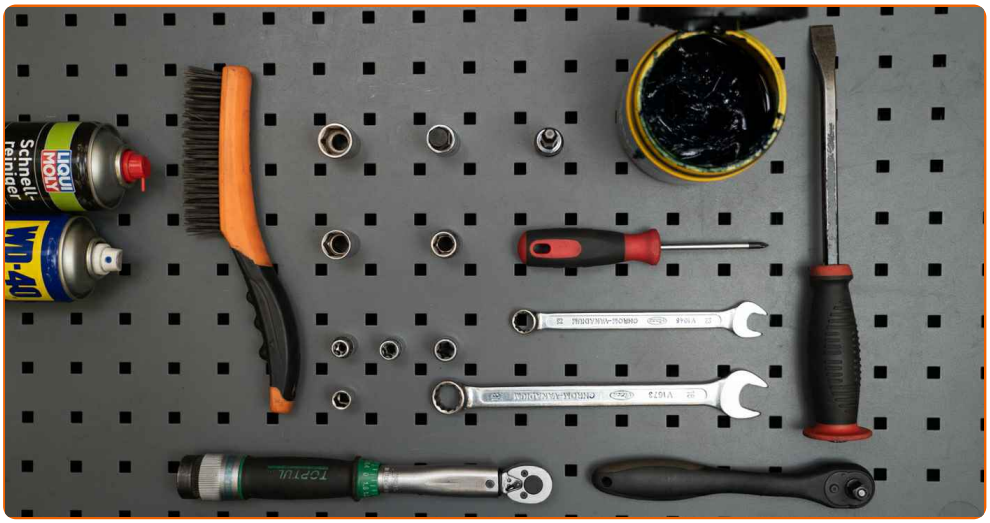
Important!

This replacement procedure can be used for:
BMW 3 Saloon (E46) 320i 2.2, BMW 3 Saloon (E46) 325i 2.5

The steps may slightly vary depending on the car design.

This tutorial was created based on the replacement procedure for a similar car part on: BMW 3 Convertible (E46) 320Ci 2.2

REPLACEMENT: CLUTCH KIT – BMW 3 SALOON (E46). TOOLS YOU MIGHT NEED:



- Wire brush
- WD-40 spray
- All-purpose cleaning spray
- Multipurpose grease
- Torque wrench
- Combination spanner #13
- Combination spanner #18
- Drive socket # 10
- Drive socket # 13
- Drive socket # 16
- Drive socket # 18
- Torx bit E11
- Torx bit E12
- Torx bit E14
- HEX bit No.H6
- HEX bit No.H14
- Ratchet wrench
- Phillips Screwdriver
- Clutch tool kit
- Crow bar
- Hydraulic transmission jack
- Fender cover

Buy tools

Replacement: clutch kit – BMW 3 Saloon (E46). AUTODOC experts recommend:

- Replace the entire clutch kit assembly: the pressure plate, clutch disc, and release bearing.
- Please note: all work on the car – BMW 3 Saloon (E46) – should be done with the engine switched off.

CARRY OUT REPLACEMENT IN THE FOLLOWING ORDER:

1 Open the bonnet.

2 Use a fender protection cover to prevent damaging paintwork and plastic parts of the car.

3 Open the boot lid.

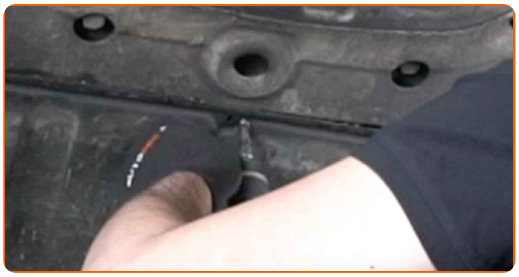
4 Remove the battery cover.

5 Unscrew the negative battery terminal fastener. Use a drive socket #10. Use a ratchet wrench.

6 Disconnect the earth cable terminal from the battery.

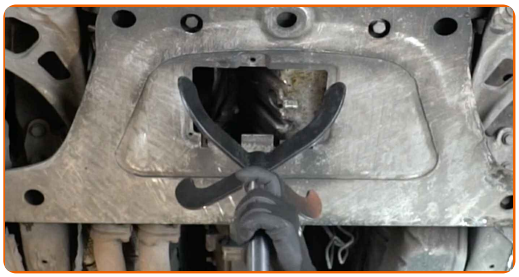
7 Lift the car using a jack or place it over an inspection pit.

8 Unscrew the engine splash guard fasteners. Use a Phillips screwdriver.



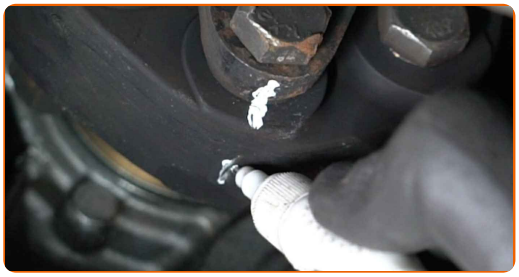
9 Remove the engine splash guard.

10 Prop up the subframe reinforcement bracket. Use a hydraulic transmission jack.



11 Unscrew the subframe reinforcement bracket fasteners. Use a drive socket #16. Use a ratchet wrench.

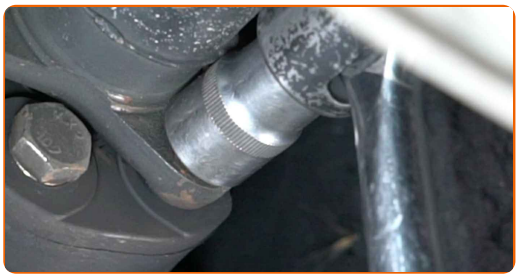
12 Remove the subframe bracket.



Replacement: clutch kit – BMW 3 Saloon (E46). Tip from AUTODOC experts:

- Make marks on the front propshaft coupling to indicate its position.

13 Unscrew the propshaft coupling fasteners. Use a combination spanner #18. Use a drive socket #18. Use a ratchet wrench.



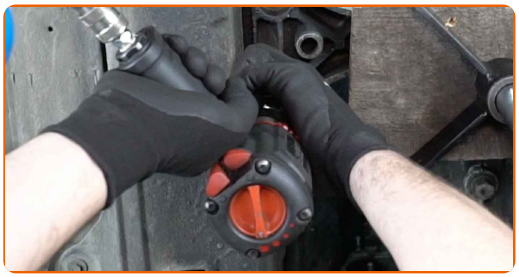
14 Unscrew the clutch slave cylinder fasteners. Use a drive socket #13. Use a ratchet wrench.

15 Remove the clutch slave cylinder.

16 Disconnect the transmission sensor connector.

17 Prop up the gearbox support. Use a hydraulic transmission jack.

18 Unscrew the fasteners that connect the gearbox support to the car body. Use a drive socket #13. Use a ratchet wrench.

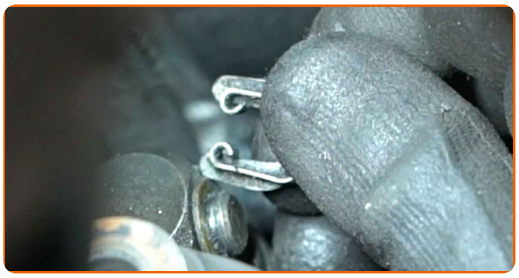


19 Unsnap the locking pin on the shift lever support arm. Use a crowbar.

20 Remove the cotter pin.

21 Disconnect the shift lever support arm.

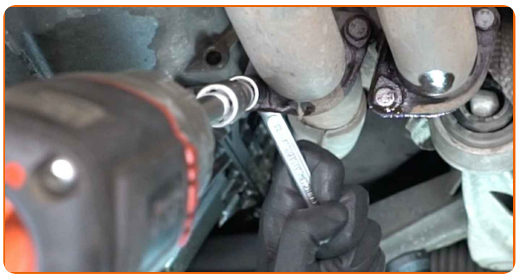
22 Remove the selector rod retaining clip.



23 Detach the selector rod.

24 Clean the exhaust system fastener. Use a wire brush. Use WD-40 spray.

25 Unscrew the exhaust system fasteners. Use a combination spanner #13. Use a drive socket #13. Use a ratchet wrench.



26 Remove the exhaust system fastener.

27 Unscrew the exhaust system bracket fasteners from the car body. Use a drive socket #13. Use a ratchet wrench.

28 Remove the exhaust system bracket.

29 Use a metal hook to hang the exhaust line to the suspension components or to the car body.

30 Unscrew the fasteners of the exhaust heat shield. Use a drive socket #10. Use a ratchet wrench.

31 Remove the exhaust heat shield.

32 Unscrew the fasteners of the propeller shaft centre support bearing. Use a drive socket #13. Use a ratchet wrench.

33 Disconnect the propshaft centre bearing from the car body.

34 Move the propeller shaft aside.

Replacement: clutch kit – BMW 3 Saloon (E46). Tip from AUTODOC:

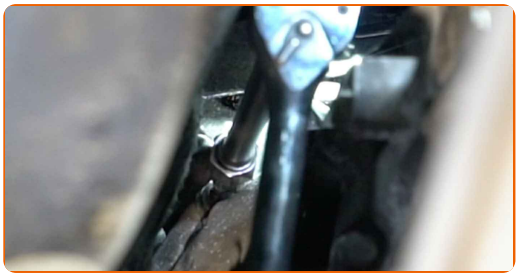
- Secure the propeller shaft to the car body to prevent injuries.

35 Remove the propshaft coupling.

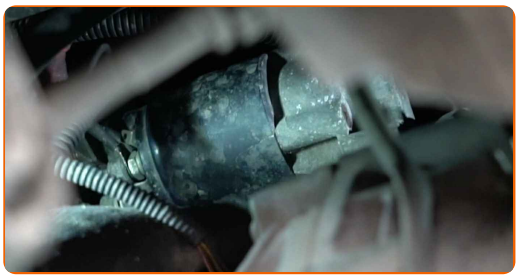
36 Unscrew the lower fasteners that connect the gearbox to the engine. Use Torx E11. Use a ratchet wrench.

37 Remove the fastening bolts.

38 Unscrew the engine starter fasteners. Use Torx E12. Use a ratchet wrench.

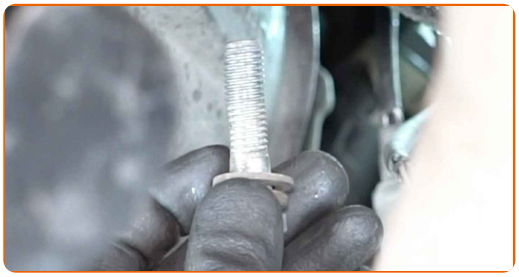


39 Move the starter away from the gearbox.



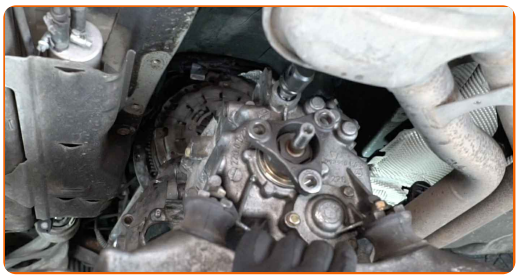
40 Unscrew the fasteners that connect the gearbox to the engine block. Use Torx E14. Use a ratchet wrench.

41 Remove the fastening bolts.



42 Disconnect the gearbox from the engine. Use a crowbar.

43 Remove the gearbox. Use a hydraulic transmission jack.



44 Install the engine flywheel locking tool. Use a clutch tool kit.

45 Unscrew the pressure plate fasteners. Use HEX No.H6. Use a ratchet wrench.

46 Remove the fastening bolts.

47 Remove the pressure plate together with the clutch disc. Use a crowbar.

48 Clean the clutch kit mounting seats. Use all-purpose cleaning spray.

49 Install the new pressure plate together with the clutch disc.

50 Align the clutch disc. Use a clutch tool kit.

Replacement: clutch kit – BMW 3 Saloon (E46). Tip from AUTODOC experts:

- Be careful not to damage the part.

51 Install the fastening bolts.

52 Screw in the pressure plate fasteners. Use HEX No.H6. Use a ratchet wrench.

53 Tighten the pressure plate fasteners. Use HEX No.H6. Use a torque wrench. Tighten it to 25 Nm torque.

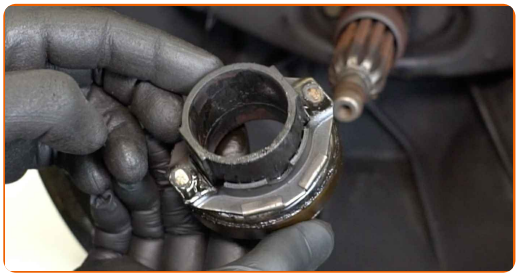
54 Unscrew the locking plate of the pressure plate. Use HEX No.H14. Use a ratchet wrench.

Replacement: clutch kit – BMW 3 Saloon (E46). Tip:

- When unscrewing it, the clutch diaphragm spring may click.

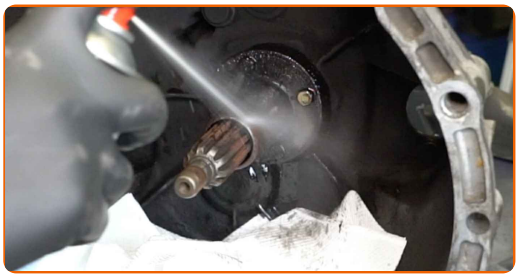
55 Remove the flywheel locking tool.

56 Remove the release bearing.



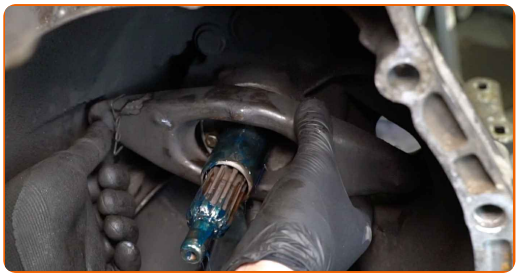
57 Remove the clutch release fork lever.

58 Clean the clutch release bearing mounting seat. Use all-purpose cleaning spray.



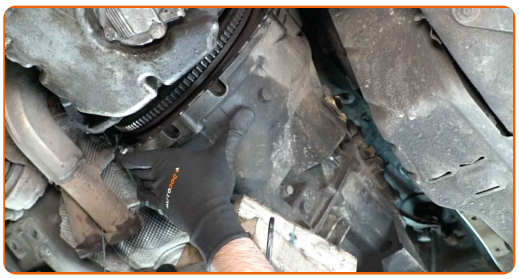
59 Treat the release bearing mounting seat. Use a multipurpose grease.

60 Install the clutch release fork lever.



61 Install the new release bearing.

62 Install the gearbox. Use a hydraulic transmission jack.



Replacement: clutch kit – BMW 3 Saloon (E46). AUTODOC experts recommend:

- Take care to prevent the gearbox from being unsupported (hanging).

63 Install the fastening bolts.

64 Tighten the lower fasteners that connect the gearbox to the engine. Use Torx E11. Use a ratchet wrench.

65 Install the engine starter.

66 Screw in the engine starter fasteners. Use Torx E12. Use a ratchet wrench.

67 Install the fastening bolts.

68 Screw in the fasteners that connect the gearbox to the engine block. Use Torx E14. Use a ratchet wrench.

69 Tighten the engine starter fasteners. Use Torx E12. Use a torque wrench. Tighten it to 43 Nm torque.

70 Tighten the fasteners that connect the gearbox to the engine block. Use Torx E14. Use a torque wrench. Tighten it to 72 Nm torque.

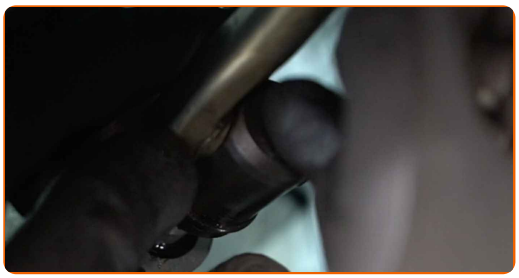
71 Tighten the lower fasteners that connect the gearbox to the engine. Use Torx E11. Use a torque wrench. Tighten it to 22 Nm torque.

72 Attach the shift lever support arm.

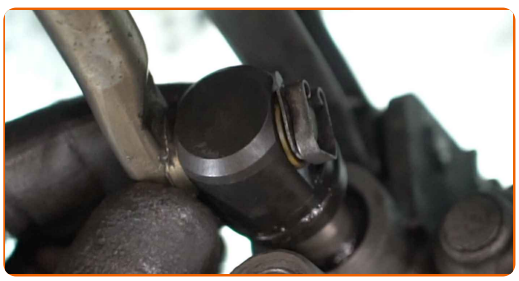
73 Install the cotter pin.

74 Secure the locking pin on the shift lever support arm.

75 Attach the selector rod.

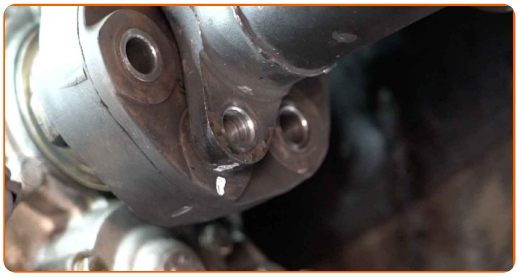


76 Attach the selector rod retaining clip.



77 Connect the propeller shaft to the gearbox flange via the propshaft coupling.

78 Align the propeller shaft flange with the mark you made.



79 Tighten the propshaft coupling fasteners. Use a combination spanner #18. Use a drive socket #18. Use a torque wrench. Tighten it to 100 Nm torque.

80 Attach the propshaft centre bearing to the car body.

81 Tighten the fasteners of the propeller shaft centre support bearing. Use a drive socket #13. Use a torque wrench. Tighten it to 32 Nm torque.

82 Prop up the gearbox support. Use a hydraulic transmission jack.

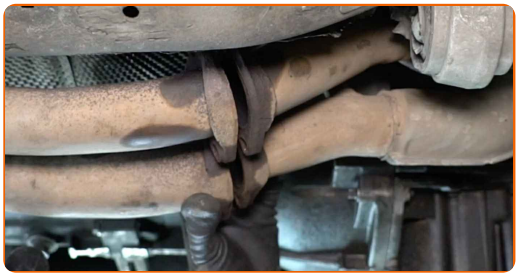
83 Tighten the fasteners that connect the gearbox support to the car body. Use a drive socket #13. Use a torque wrench. Tighten it to 35 Nm torque.

84 Prop up the exhaust line. Use a hydraulic transmission jack.

85 Install the exhaust heat shield.

86 Tighten the fasteners of the exhaust heat shield. Use a drive socket #10. Use a ratchet wrench.

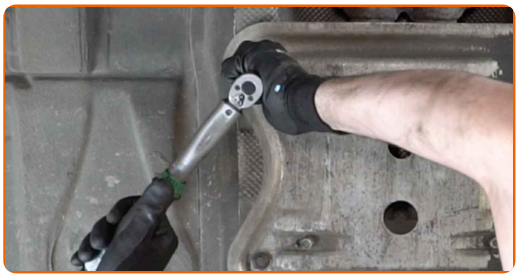
87 Install the exhaust system fastener.



88 Tighten the exhaust system fasteners. Use a drive socket #13. Use a torque wrench. Tighten it to 22 Nm torque.

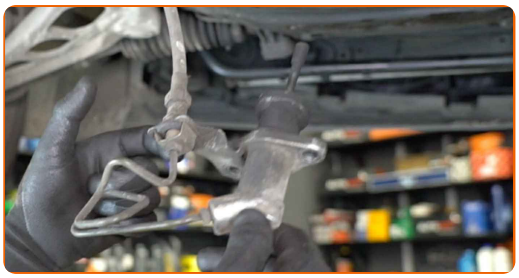
89 Install the exhaust system bracket.

90 Tighten the fasteners that connect the exhaust system bracket to the car body. Use a drive socket #13. Use a torque wrench. Tighten it to 22 Nm torque.

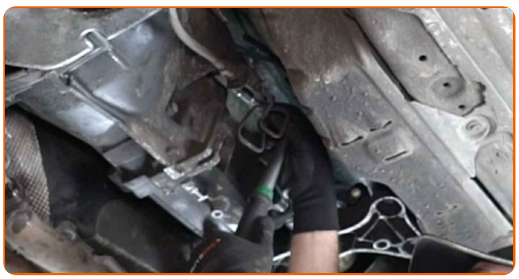


91 Attach the transmission sensor connector.

92 Install the clutch slave cylinder.



93 Tighten the clutch slave cylinder fasteners. Use a drive socket #13. Use a torque wrench. Tighten it to 22 Nm torque.

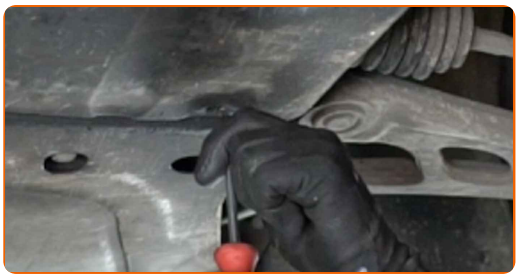


94 Install the subframe bracket.

95 Tighten the subframe reinforcement bracket fasteners. Use a drive socket #16. Use a torque wrench. Tighten it to 59 Nm torque. +90°

96 Install the engine splash guard.

97 Tighten the engine splash guard fasteners. Use a Phillips screwdriver.



98 Lower the car.

99 Connect the earth cable terminal to the battery.

100 Screw in the negative battery terminal fastener. Use a drive socket #10. Use a ratchet wrench.

101 Install the battery cover.

102 Close the lid of the luggage compartment.

103 Run the engine for a few minutes. This is necessary in order to make sure that the component operates properly.

104 Shut off the engine.

105 Remove the fender protection cover.

106 Close the hood.

WELL DONE!

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